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IS 8083 (1976): Dimensions of ceramic dielectric capacitors of the plate type [LITD 5: Semiconductor and Other Electronic Components and Devices]



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*Indian Standard*  
DIMENSIONS OF  
CERAMIC DIELECTRIC CAPACITORS  
OF THE PLATE TYPE

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# *Indian Standard*

## DIMENSIONS OF CERAMIC DIELECTRIC CAPACITORS OF THE PLATE TYPE

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# *Indian Standard*

## DIMENSIONS OF CERAMIC DIELECTRIC CAPACITORS OF THE PLATE TYPE

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 1 June 1976, after the draft finalized by the Capacitors and Resistors for Electronic Equipment Sectional Committee had been approved by the Electronics and Telecommunications Division Council.

**0.2** The dimensional standardization of ceramic dielectric capacitors of the plate type has been undertaken with a view to reducing the variety and rationalization of different types available. It is intended that the dimension should be chosen from those specified in this standard. The individual detail specification for ceramic capacitors will link the dimension with rated voltage and rated capacitance.

**0.3** While preparing this standard assistance has been derived from IEC Pub 234 (1967) 'Dimensions of ceramic dielectric capacitor of the plate type' and IEC Pub 234 A (1970) First supplement to Pub 347 (1967), issued by the International Electrotechnical Commission.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS:2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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### 1. SCOPE

**1.1** This standard covers preferred dimensions of ceramic dielectric capacitors of the plate type that are either substantially square, round or rectangular.

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\*Rules for rounding off numerical values (*revised*).

## 2. DIMENSIONS OF SUBSTANTIALLY SQUARE OR ROUND TYPE

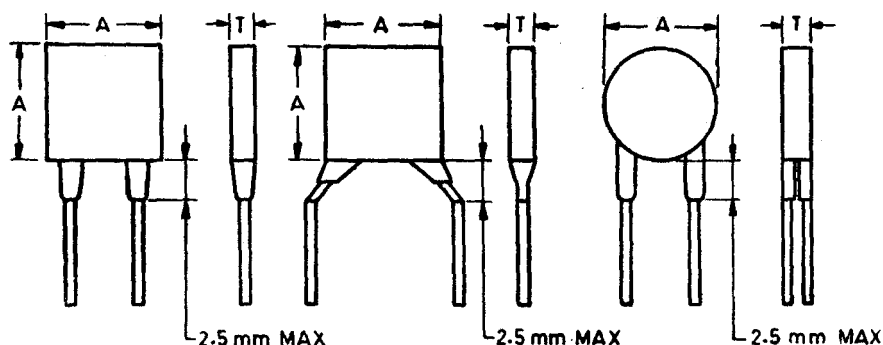
2.1 The dimensions of ceramic dielectric capacitors of substantially square or round type shall be in accordance with Table 1.

NOTE 1 — The figures shown are only typical examples.

NOTE 2 — The leads shall be clean and parallel from a point at a distance of 2.5 mm maximum from the edge of the body of the capacitor.

**TABLE 1 DIMENSIONS OF SUBSTANTIALLY SQUARE OR ROUND TYPE CERAMIC DIELECTRIC CAPACITORS**

( All dimensions in millimetres. )



A ( NOMINAL )

T, Max

DISTANCE BETWEEN  
LEAD CENTRES

(1)

(2)

(3)

1.6  
 2.0  
 2.5  
 3.2  
 4.0  
 5.0  
 6.3

+ 0  
- 20 percent

4.0 or 2.5

2.54 ± 0.3

8.0  
 10.0  
 12.5  
 16.0  
 25.0

+ 0  
- 20 percent

4.0\* or 2.5

{ 5.08  
 5.08  
 10.16  
 10.16  
 10.16 } ± 0.5

\*The dimensions T may be relaxed to 5 mm subject to agreement between the manufacturer and the user.



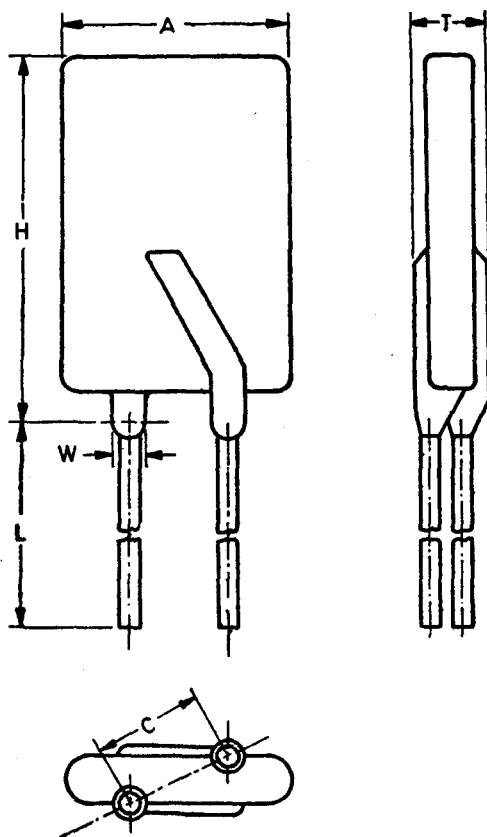
### 3. DIMENSIONS OF RECTANGULAR ( EXCEPT SQUARE ) TYPE

3.1 The dimensions of ceramic dielectric capacitors, rectangular type, shall be in accordance with Table 2.

NOTE — The figure shown is only typical example.

**TABLE 2 DIMENSIONS OF RECTANGULAR TYPE CERAMIC DIELECTRIC CAPACITORS**

( All dimensions in millimetres. )



*H*  
Max

*A*  
Max

*C*

*Min*

*Max*

(1)

(2)

(3)

(4)

8.0

5.08

2.29

2.74

10.5

5.08

2.29

2.74

10.5

7.62

4.83

5.28

10.5

10.16

4.83

5.28

**3.1.1** The maximum thickness  $T$  shall be 1.27, 1.90, 2.54 or 3.81 mm.

#### 4. OTHER DETAILS

**4.1** The minimum termination length  $L$  of ceramic dielectric capacitors of the plate type shall be 15 mm, unless otherwise specified.

**4.2** The preferred diameters of the wire terminations shall be in accordance with the values given below:

<i>Min</i>	<i>Nominal</i>	<i>Max</i>
0.25	0.3	0.33
0.35	0.4	0.44
0.45	0.5	0.55
0.55	0.6	0.66
0.65	0.7	0.77
0.75	0.8	0.88
0.95	1.0	1.10
1.15	1.2	1.30

**4.3** The parts of the leads that protrude through the gauge plate during the measurement described in Appendix A shall be clean and parallel.

### APPENDIX A

(Clause 4.3)

#### METHOD OF MEASUREMENT OF DIMENSIONS OF RECTANGULAR (EXCEPT SQUARE) CERAMIC DIELECTRIC CAPACITORS OF PLATE TYPE

**A-1.** The dimension  $H$  shall be measured by inserting the terminations into the slot of a gauge plate as shown in Fig. 1, until the capacitor rests on the gauge plate.

**A-2.** The width  $W$  of the slot in the gauge plate shall depend on the diameter of the wire termination as shown below:

<i>Nominal Diameter of Wire Terminations</i> mm		<i>Width of Slots in Gauge Plates</i>
From	Up to and Including	
—	0.45	0.8
0.45	0.7	1.0
0.7	0.9	1.2
0.9	1.15	1.5
		} $\pm 0.02$ mm

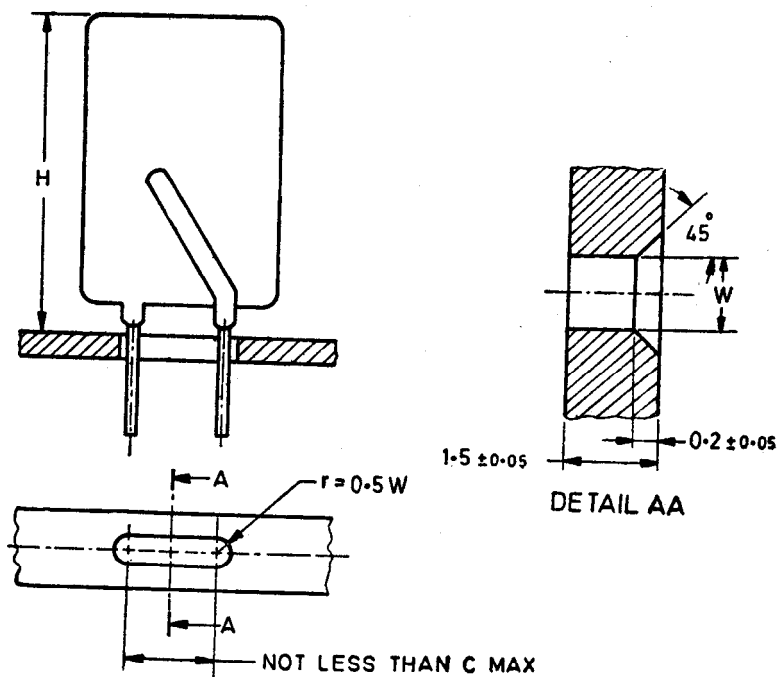


FIG. 1 MEASUREMENT OF DIMENSIONS OF RECTANGULAR CAPACITORS OF PLATE TYPE

## INDIAN STANDARDS

### ON

## CAPACITORS AND RESISTORS FOR ELECTRONIC EQUIPMENT

IS:

- 590-1964 Fixed paper dielectric capacitors for dc ( *revised* )
- 824-1965 Preferred values for capacitors and resistors ( *revised* )
- 825-1956 Colour code for fixed resistors
- 1980-1967 Ceramic dielectric capacitors, Type I ( *first revision* )
- 2001-1968 Fixed silvered mica capacitors ( *first revision* )
- 2612-1965 Recommendation for type approval and sampling procedures for electronic components
- 2786-1965 Ceramic dielectric capacitors, Type II
- 2902-1964 Fixed carbon film resistors, Type I
- 2903-1964 Fixed carbon film resistors, Type II
- 2934 ( Part I )-1964 Non-wirewound variable resistors ( potentiometers ), Type 2: Part I Tests and general requirements
- 3373 ( Part I )-1965 Wire wound resistors, Type I: Part I Tests and general requirements
- 3373 ( Part II )-1967 Wire wound resistors, Type II: Part II Vitreous enamelled
- 3671 ( Part I )-1966 Air dielectric variable capacitors: Part I Tests and general requirements
- 3723-1966 Capacitors for radio interference suppression
- 4114-1967 Coded markings of values of capacitance and resistance by letters and digits
- 4317 ( Part I )-1967 Aluminium electrolytic capacitors: Part I General requirements and tests
- 4633-1968 Fixed metallized-paper dielectric capacitors for direct current
- 5027-1969 Method of measurement of current noise generated in fixed resistors
- 5361-1969 Polyester film dielectric capacitors for direct current
- 5475-1969 Polystyrene film dielectric capacitors
- 5786 ( Part I )-1970 Fixed resistors: Part I Tests and general requirements
- 7305 (Part I )-1973 Fixed capacitors used in electronic equipment: Part I General requirements and tests
- 7305 ( Part II )-1976 Fixed capacitors used in electronic equipment: Part II Ceramic dielectric capacitors, Type I
- 7748 (Part I )-1975 Variable capacitors: Part I Tests and general requirements